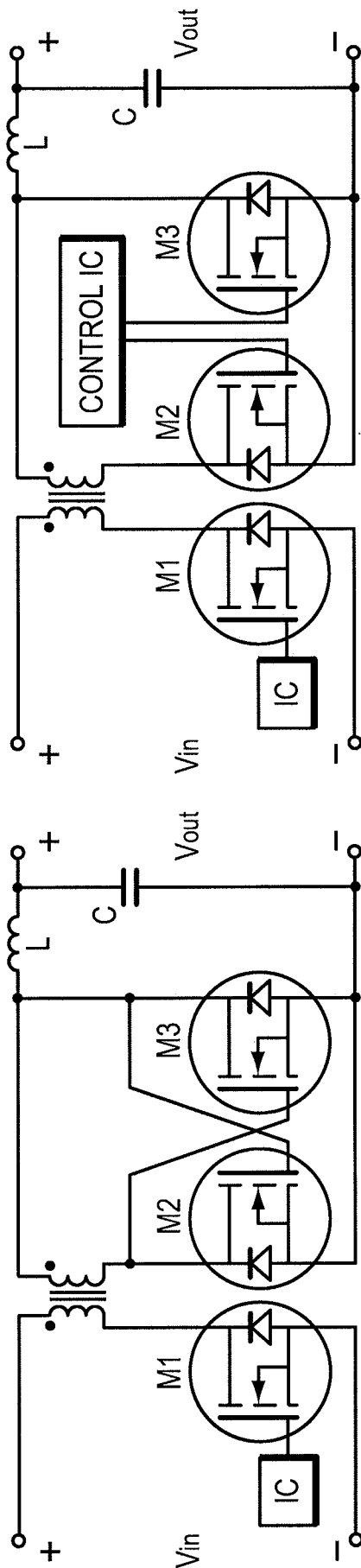


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IC-DRIVEN SYNCHRONOUS RECTIFICATION  
ISOLATED FORWARD CONVERTER

FIG. 1B  
PRIOR ART

SELF-DRIVEN SYNCHRONOUS RECTIFICATION  
ISOLATED FORWARD CONVERTER

FIG. 1A  
PRIOR ART

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Title: "Monolithic Power Semiconductor Structures  
Including Pairs of Integrated Devices" by Shen et al.  
Serial No. 10/582,035  
Atty Docket No. GWS-009  
Attorney: Natasha C. Us  
REPLACEMENT SHEET 2 of 11

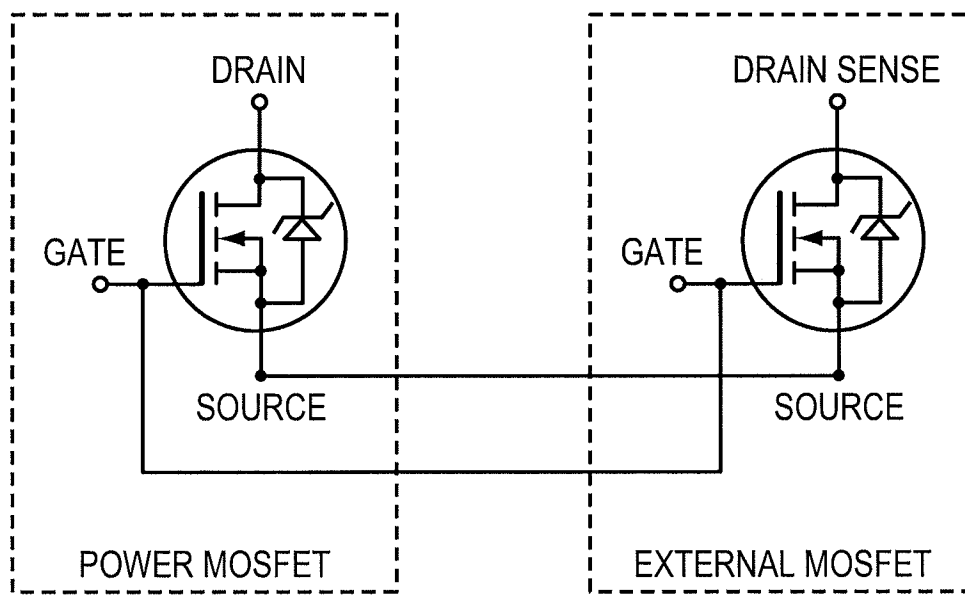
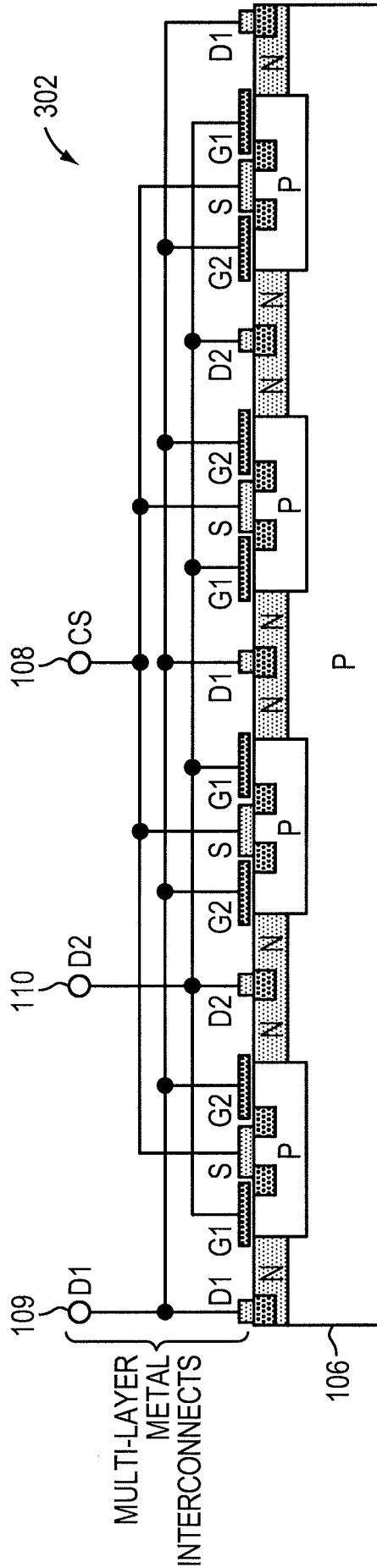


FIG. 2  
PRIOR ART



**FIG. 3A**



**FIG. 4A**

# FIRST EMBODIMENT: 3-LEAD SELF-DRIVEN MOSFET PAIR IN INTERLEAVED CELL FINGERS

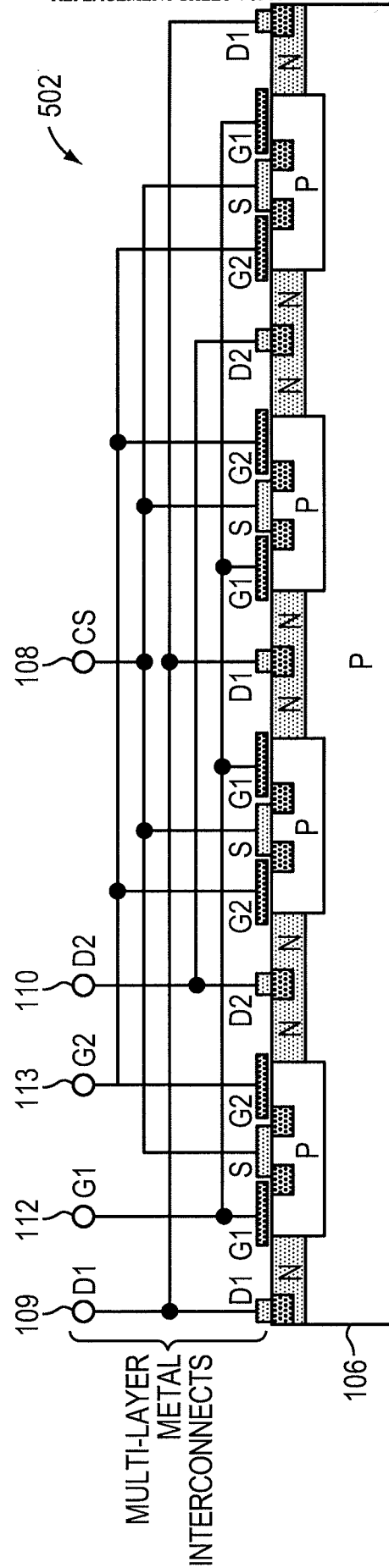


FIG. 4B

## SECOND EMBODIMENT: 5-LEAD EXTERNAL-DRIVEN MOSFET PAIR IN INTERLEAVED CELL FINGERS

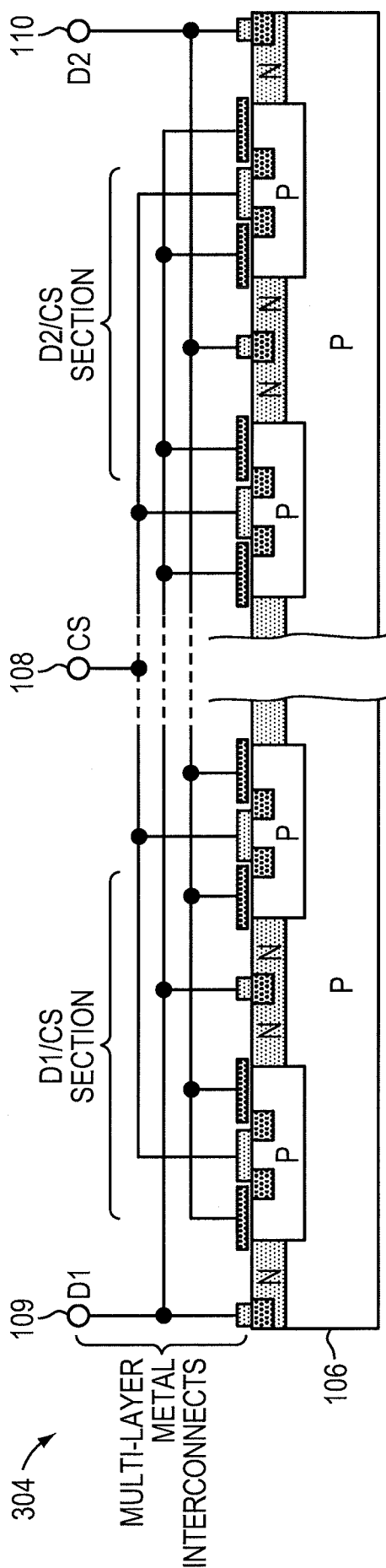


FIG. 5A

THIRD EMBODIMENT: 3-LEAD SELF-DRIVEN MOSFET PAIR IN SEPARATE CELL SECTIONS

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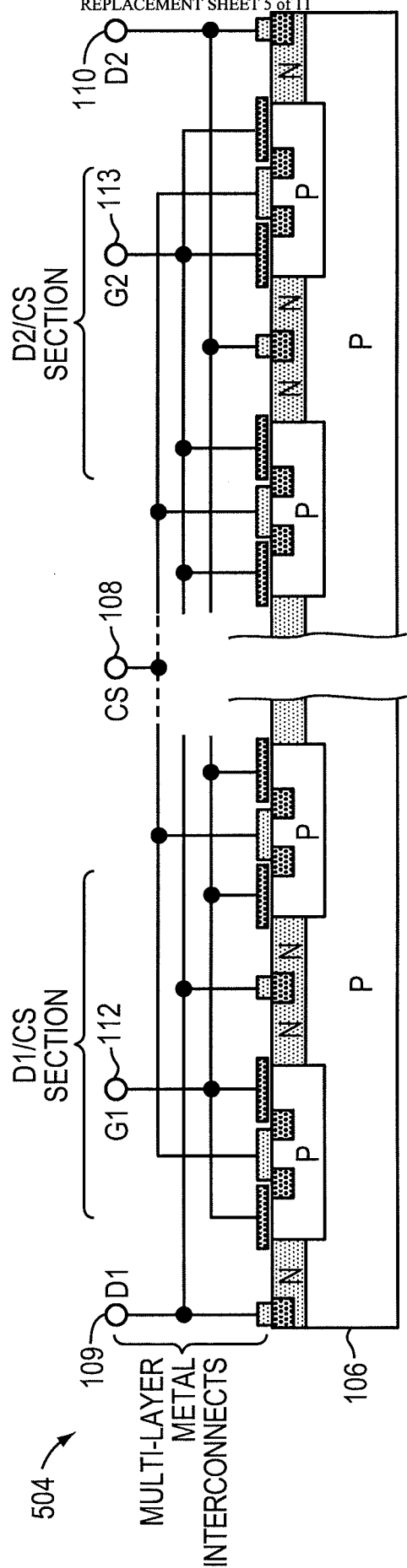


FIG. 5B

FOURTH EMBODIMENT: 5-LEAD EXTERNAL-DRIVEN MOSFET PAIR IN SEPARATE CELL SECTIONS



1. DISCRETE POWER SEMICONDUCTOR DEVICE COMPRISED  
OF MULTIPLE TRANSISTORS WITH COMMON SOURCE CONNECTION  
WITH ONE OR MORE TRANSISTORS HAVING  
ELECTRICALLY ISOLATED DRAIN AND GATE CONNECTIONS

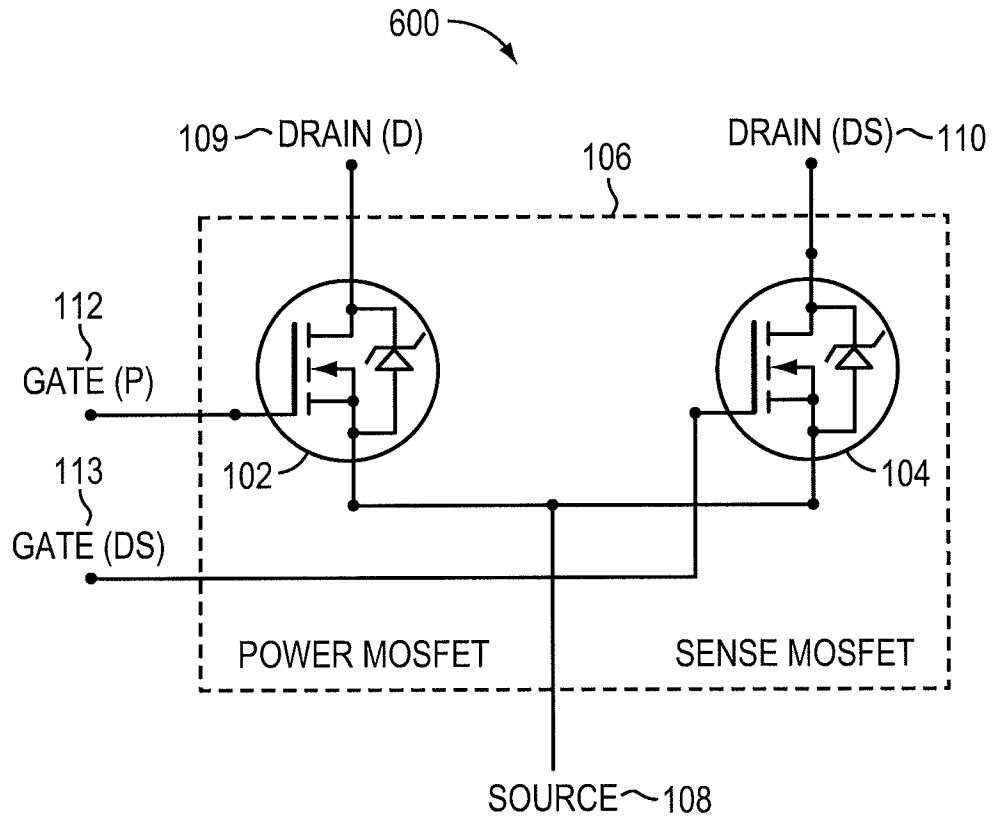
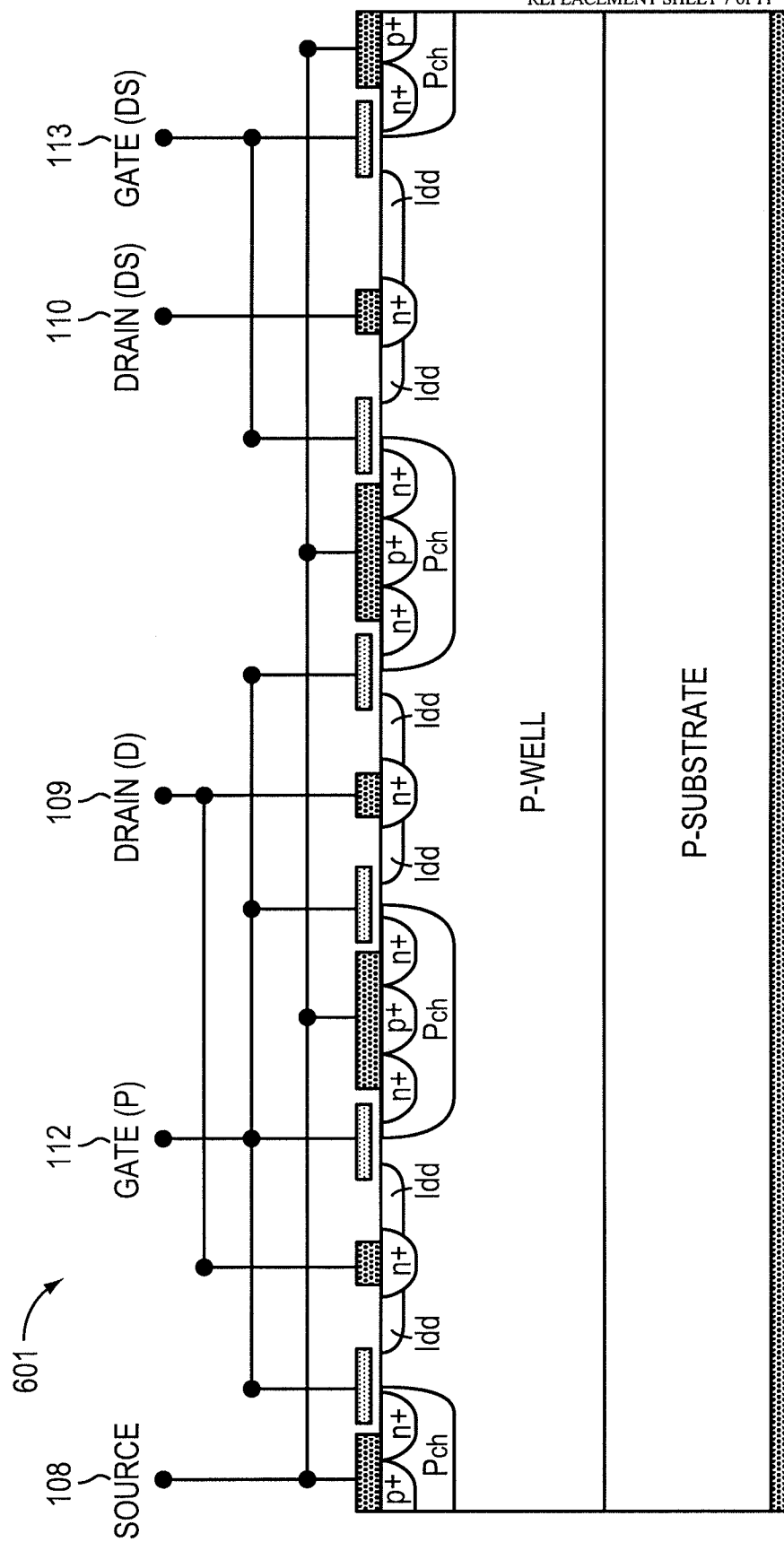


FIG. 6

# 1. DISCRETE POWER SEMICONDUCTOR DEVICE COMPRISED OF MULTIPLE TRANSISTORS WITH COMMON SOURCE CONNECTION WITH ONE OR MORE TRANSISTORS HAVING ELECTRICALLY ISOLATED DRAIN AND GATE CONNECTIONS



**FIG. 7**  
CROSS-SECTIONAL DIAGRAM OF A POWER MOSFET WITH INTEGRATED DRAIN SENSE

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2. DISCRETE POWER SEMICONDUCTOR DEVICE COMPRISED  
OF MULTIPLE TRANSISTORS WITH COMMON SOURCE AND  
GATE CONNECTIONS WITH ONE OR MORE TRANSISTORS HAVING  
ELECTRICALLY ISOLATED DRAIN CONNECTIONS

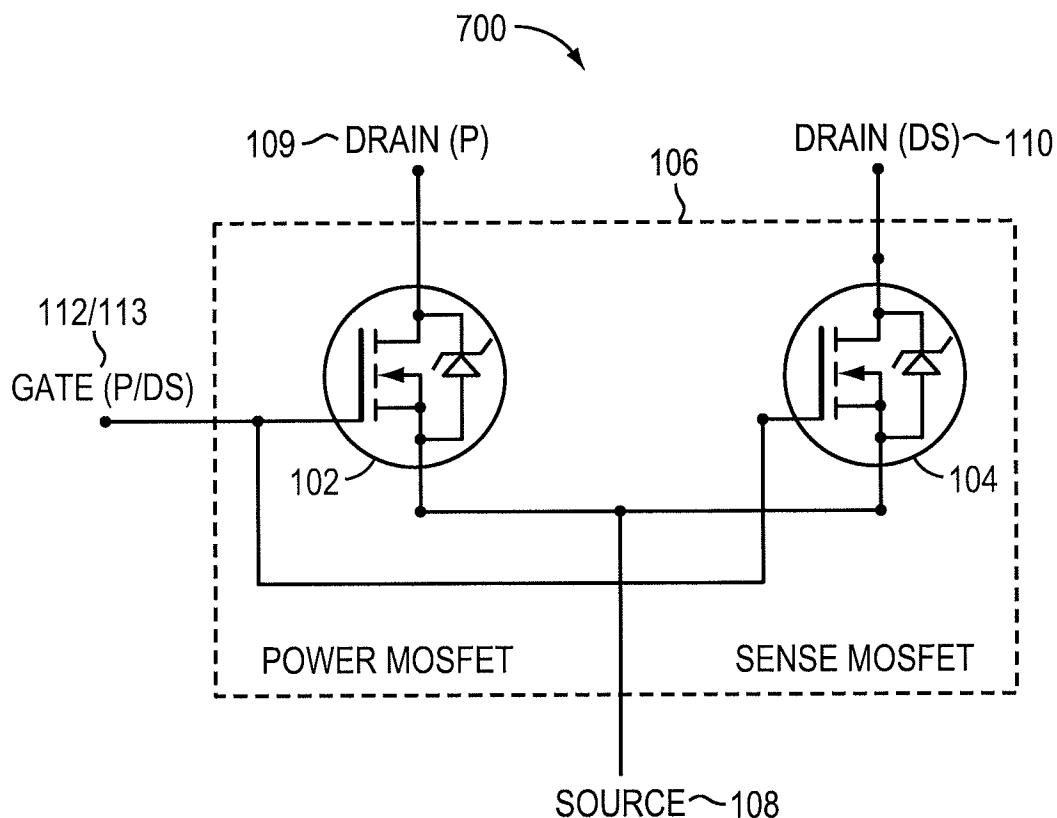
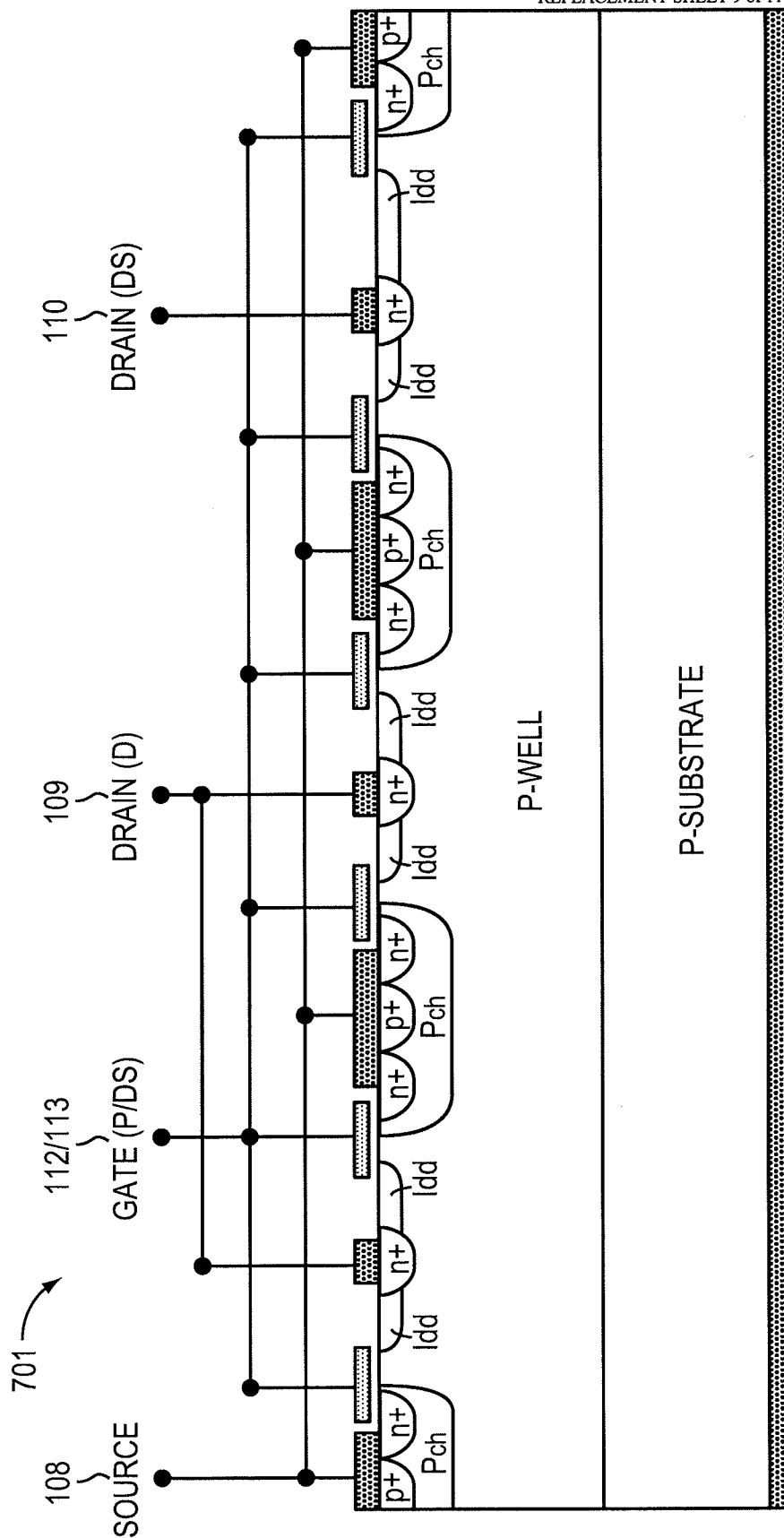


FIG. 8



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2. DISCRETE POWER SEMICONDUCTOR DEVICE COMPRISED OF MULTIPLE TRANSISTORS  
 WITH COMMON SOURCE AND GATE CONNECTIONS WITH ONE OR MORE TRANSISTORS  
 HAVING ELECTRICALLY ISOLATED DRAIN CONNECTIONS



**FIG. 9**  
 CROSS-SECTIONAL DIAGRAM OF A POWER MOSFET WITH INTEGRATED DRAIN SENSE

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Title: "Monolithic Power Semiconductor Structures Including Pairs of Integrated Devices" by Shen et al.  
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Attorney: Natasha C. Us  
REPLACEMENT SHEET 10 of 11

3. DISCRETE POWER SEMICONDUCTOR DEVICE COMPRISED  
OF MULTIPLE TRANSISTORS WITH COMMON SOURCE AND  
GATE CONNECTIONS WITH ONE OR MORE TRANSISTORS HAVING  
SUBSTANTIALLY DIFFERENT THRESHOLD VOLTAGES  
AND ELECTRICALLY ISOLATED DRAIN CONNECTIONS

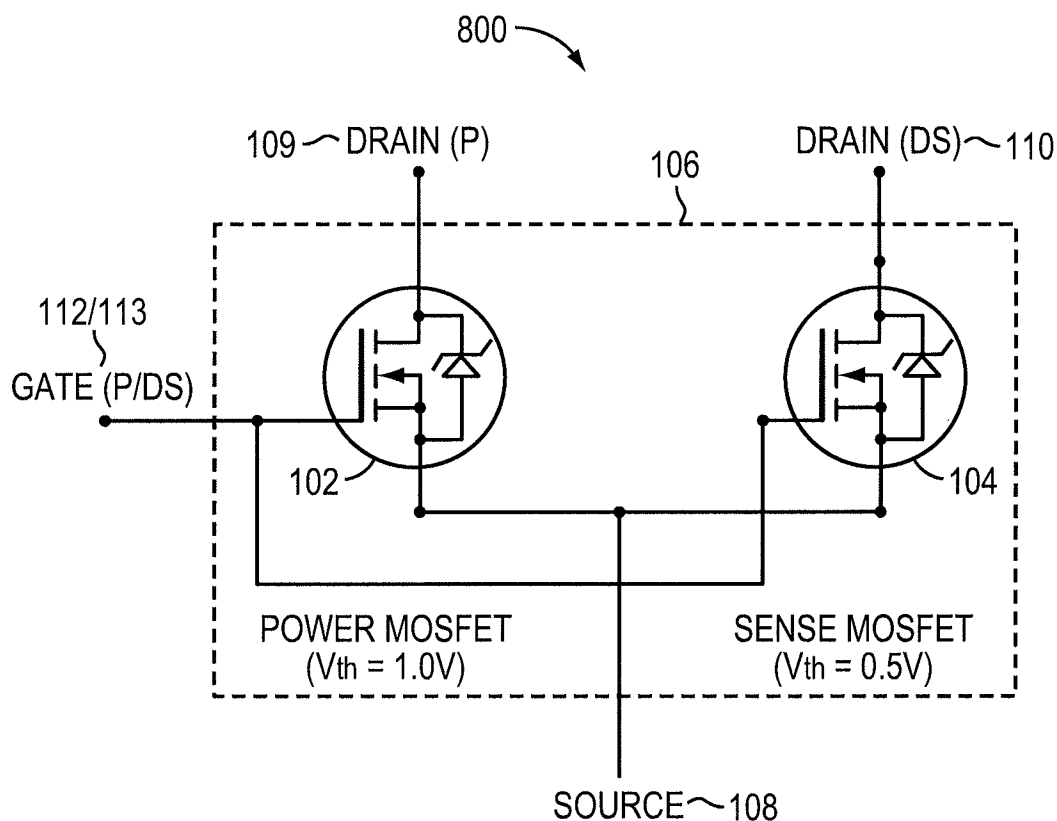


FIG. 10

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3. DISCRETE POWER SEMICONDUCTOR DEVICE COMPRISED OF MULTIPLE TRANSISTORS WITH COMMON SOURCE AND GATE CONNECTIONS WITH ONE OR MORE TRANSISTORS HAVING SUBSTANTIALLY DIFFERENT THRESHOLD VOLTAGES AND ELECTRICALLY ISOLATED DRAIN CONNECTIONS

— INDICATES THRESHOLD ADJUST IMPLANT

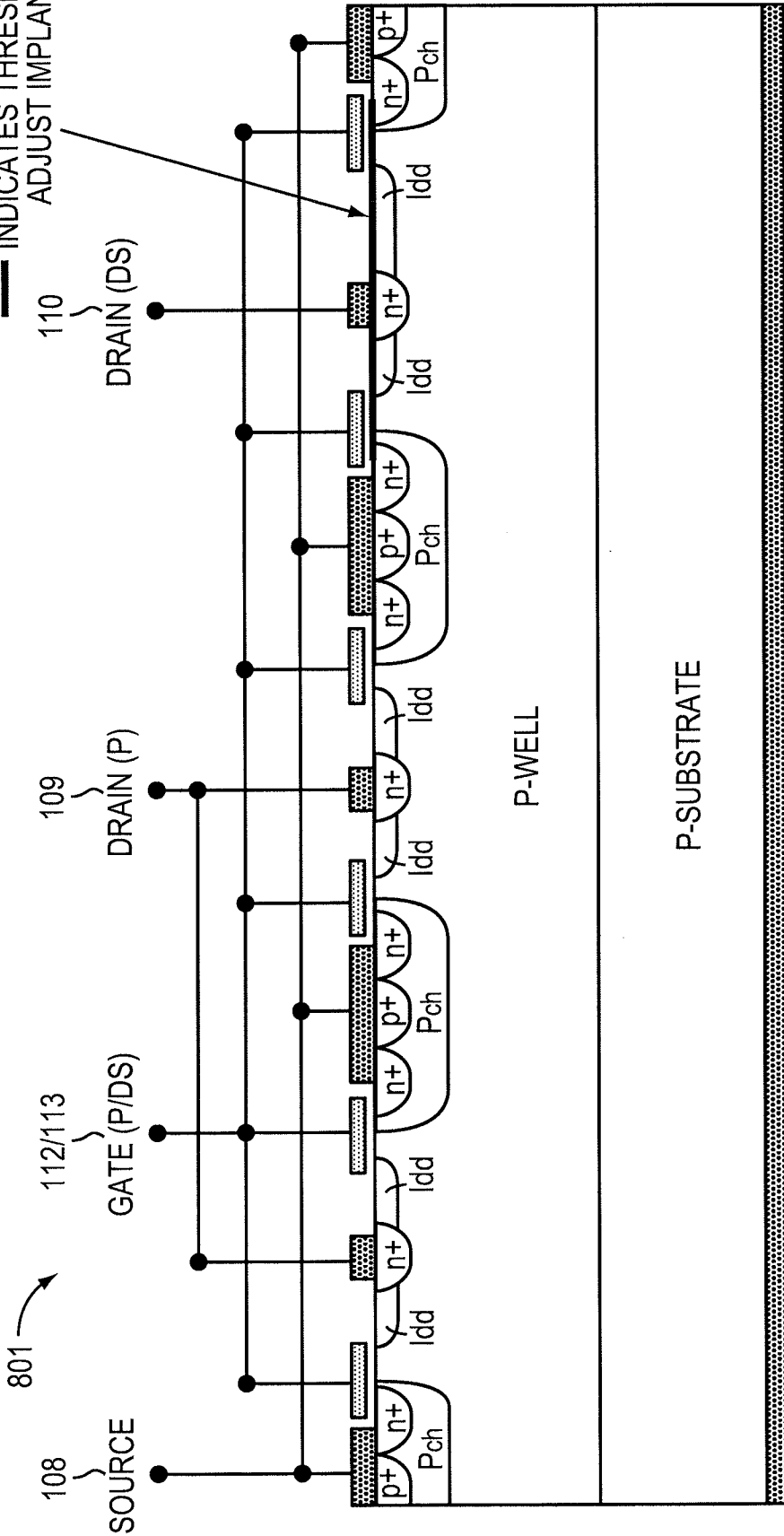


FIG. 11

CROSS-SECTIONAL DIAGRAM OF A POWER MOSFET WITH INTEGRATED DRAIN SENSE

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